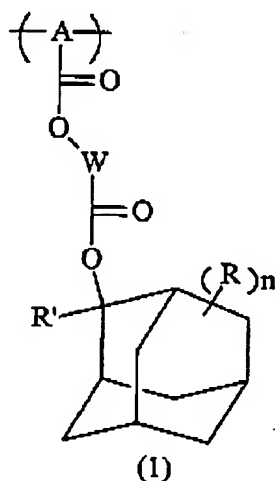


Serial No.: 10/734,022  
 Filed: December 11, 2003

Complete set of claims

1. (previously amended) A photoresist composition comprising a photoacid generator and a polymer comprising at least one unit as described by structure 1,



where, A has the structure



where  $R_1'$ ,  $R_1''$  and  $R_1'''$  are independently hydrogen,  $(C_1-C_6)$  alkyl or cyano, and Y is X,  $C(O)OX$ ,  $OX$ , where X is an aliphatic  $(C_1-C_6)$  alkylene group, and m is 0 or 1,

W is a  $(C_1-C_8)$  linear or branched alkyl group,

Serial No.: 10/734,022  
Filed: December 11, 2003

R is independently selected from substituted hydrocarbyl group, unsubstituted hydrocarbyl group, hydrogen, hydroxyl, and (C<sub>1</sub>-C<sub>10</sub>)alkyl,

R' is hydrogen or (C<sub>1</sub>-C<sub>6</sub>) alkyl, and n=1-9.

2. (canceled)

3. (canceled)

4. (canceled)

5. (canceled)

6. (canceled)

7. (canceled)

8. (original) The composition according to claim 1, where the polymer further comprises at least one comonomeric unit.

9. (original) The composition according to claim 8, where the comonomeric unit is derived from monomers selected from cyclic anhydrides, (meth)acrylate esters, vinyl acetals and cyclo olefins.

10. (original) The process of imaging a positive photoresist composition comprising the steps of:

Serial No.: 10/734,022  
Filed: December 11, 2003

- a) coating a substrate with a film of photoresist composition of claim 1;
- b) baking the substrate to substantially remove the solvent;
- c) imagewise irradiating the photoresist film;
- d) baking the photoresist film; and,
- e) developing the irradiated photoresist film using an alkali developer.

11. (original) The photoresist composition according to claim 10, further comprising coating an antireflective film on the substrate prior to coating the photoresist.

12. (previously amended) The photoresist composition according to claim 11, further where the antireflective coating is sensitive at 193nm.

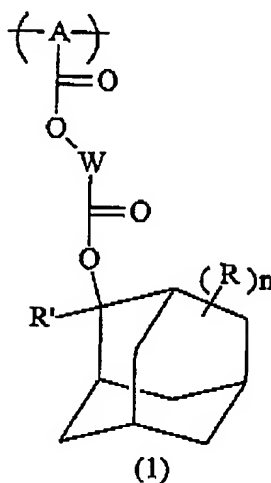
13. (original) The process of claim 10, wherein the photoresist film is imagewise irradiated with light of wavelength in the range of 100nm to 300nm.

14. (original) The process of claim 10, wherein the heating in step d) ranges from a temperature of from about 90°C to about 150°C for from about 30 seconds to about 180 seconds on a hot plate.

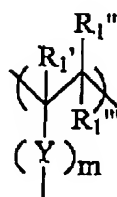
15. (original) The process of claim 10, wherein the alkali developer comprises an aqueous solution of tetramethyl ammonium hydroxide.

Serial No.: 10/734,022  
 Filed: December 11, 2003

16. (previously amended) A polymer comprising at least one unit as described by structure 1,



where, A has the structure



where  $R_1'$ ,  $R_1''$  and  $R_1'''$  are independently hydrogen, (C<sub>1</sub>-C<sub>8</sub>) alkyl or cyano, and Y is X, C(O)OX, OX, where X is an aliphatic (C<sub>1</sub>-C<sub>6</sub>) alkylene group, and m is 0 or 1,

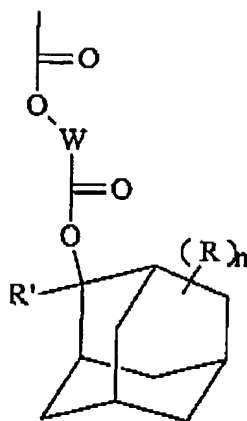
W is a (C<sub>1</sub>-C<sub>8</sub>) linear or branched alkyl group,

R is independently selected from substituted hydrocarbyl group, unsubstituted hydrocarbyl group, hydrogen, hydroxyl, and (C<sub>1</sub>-C<sub>10</sub>)alkyl,

R' is hydrogen or (C<sub>1</sub>-C<sub>6</sub>) alkyl, and n=1-9.

Serial No.: 10/734,022  
 Filed: December 11, 2003

17. (previously amended). A monomer comprising an aliphatic unsaturated moiety with a pendant structure



where, W is a (C<sub>1</sub>-C<sub>8</sub>) linear or branched alkyl group, R is independently selected from substituted hydrocarbyl group, unsubstituted hydrocarbyl group, hydrogen, hydroxyl, and (C<sub>1</sub>-C<sub>10</sub>)alkyl, R' is hydrogen or (C<sub>1</sub>-C<sub>6</sub>) alkyl, and n=1-9.

18. (previously presented) The composition of claim 1 where W is selected from methylene, methyl methylene, dimethyl methylene, isopropylene and propylene.

19. (previously presented) The composition of claim 1 where W is CH<sub>2</sub>.

20. (previously presented) The composition of claim 16, where W is selected from methylene, methyl methylene, dimethyl methylene, isopropylene and propylene.

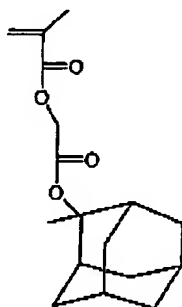
21. (previously presented) The composition of claim 16 where W is CH<sub>2</sub>.

Serial No.: 10/734,022  
Filed: December 11, 2003

22. (previously presented) The composition of claim 17, where W is selected from methylene, methyl methylene group, dimethyl methylene, isopropylene and propylene.

23. (previously presented) The composition of claim 17 where W is CH<sub>2</sub>.

24. (previously presented) The composition of claim 1, where the unit of structure 1 is derived from a monomer selected from the structure:



25. (previously presented) The composition of claim 1, where the unit of structure 1 is derived from a monomer selected from the structure:

Serial No.: 10/734,022  
Filed: December 11, 2003

